Alternatives to Automotive Consumer Products that use Volatile Organic Compounds (VOC) and/or Chlorinated Organic Compound Solvents

Addendum

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DISCLAIMER

The statements and conclusions in this Report are those of the contractor and not necessarily those of the California Air Resources Board. The mention of commercial products, their source, or their use in connection with material reported herein is not to be construed as actual or implied endorsement of such products.

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DESCRIPTION OF ADDENDUM

This addendum to the document entitled "Alternatives to Automotive Consumer Products that use Volatile Organic Compounds (VOC) and/or Chlorinated Organic Compound Solvents" presents the questionnaires that were filled out by the staff of the Institute for Research and Technical Assistance (IRTA) during the project. IRTA recruited 13 auto repair facilities, three automotive detailers, one car wash and three consumers to test and evaluate the alternative low-VOC alternatives developed in the course of the project. IRTA generally provided samples of the alternatives to the facilities and monitored the testing on a weekly basis.

The questionnaires were filled out by IRTA staff when the facilities or individuals had completed testing of each alternative. In a few cases, facility personnel filled out the questionnaires themselves. This addendum provides the raw data questionnaires in the following order:

- Engine Degreasing Questionnaires--based on feedback from the three automotive detailers, one car wash and three consumers on the alternative engine degreasers
- Carburetor and Fuel Injection System Cleaning Questionnaires--based on feedback from the 13 auto repair facilities
- Brake Cleaning and General Purpose Degreasing Questionnaires--based on feedback from the 13 auto repair facilities

Carburetor and Fuel Injection System Cleaners

		ARCO SIM		
Date	User	Owner / Manager	Interviewer	Product LD.
7/12/04	RAFIK	MATHER KAZE	Jan Z	Segosal Acerose

	Type of Cleani		
General Purpose Degressing	(Circle O	Engine Degreasing	Carburetor & Fuel Injection System Cleaning

Current Product	Current Weekly Usage	No. Mech. Using Product	Test Product Weekly Usage
GUNK CARR CLEAVER	1-2 CANS	RATTE	2.cms

Question	User's Response
Did it clean sufficiently	4ES
Did you like the delivery rate	465
Did you like the delivery pattern	465
Did it dry sufficiently	465
Did it adversely effect substrates (metals, plastics, painted surfaces, etc)	NO
Did the product have a smell	465
Did it have an objectionable odor	NO, BUT KIND OF BAD,
Did it leave an unacceptable residue	NG NG
Did it have too much foam	NO
Cleaning versus current product. (Terrible, almost as good, as good, better)	ALMOST AS GOOD
Did you use more volume than your current cleaner	No
Did it take longer to clean	N6
Did you like the product	465
Would you buy the test product	NO
Would you buy the test product for home or personal use	NO .
Would you buy your current product for home or personal use	465
Would you switch to the test product (if less expensive, if more expensive)	NO
Could you clean adequately if you had only the test product	465

User Comments WARRED SECT BUY BECAUSE DEDN'T CLEAN A. AND OTHER TOST PROPORT WERE BETTER, 1650.	S COPEL AS CONOR
Manager Comments	

Date	User		Owner / Mana	ger	Interviewer			Duck at Th
7/13/01	Tom	6	till Marco	-	Jan	-		Product I.D.
		101	Exit Daile	44	SHOW	LANK	DIL	50% 504/1CE
			Type of Cle			ed		
C	ocral Purpose		(Circle	One (_	
	Degreasing		Brake Cleaning		Engin	e Degreasing	C	arburetor & Fuel Injecti System Cleaning
	rent Product	Current	Weekly Usage	No	Mech Tie	ing Product	Test	
CRC-1	ARB		-15/well	2	-Fa -	TESTER.	1651	Product Weekly Usag
			7			Comme	-5.	CANS.
	Question				Use	r's Respo	nse	
Did it cle	an sufficiently		in c					
Did you l	ike the delivery r	ate	96.S					
Did you l	ike the delivery p	attern	4ES					
		- LIGHT	46.5					
	sufficiently		YES		1			
Did it adv (metals, p	ersely effect subs lastics, painted st	strates	NO.					
Did the pr	roduct have a sme	:11	46.5					
	e an objectionabl		NO					
Did it leav	e an unacceptabl	e residue						
Did it hav	e too much foam	100000	NO					
Cleaning	versus current pro	educt :	NO					
(Terrible, a	lmost as good, as a	good, better)	ALMOST A	5 G	000			
current cle	se more volume t	han your						
	longer to clean		NO					
Did won li	ke the product		NO					And the second
Would you	buy the test pro	dusa	465					
Would you	buy the test pro-	duct	465					
home or p	ersonal use	duct for	4E5					100
Would you	buy your curren	t product	1/6.5					
for home o	ir personal use		46.5					
Would you	switch to the tes	t product	,					
tt less exp	ensive, if more e	expensive)	NO					
could you	clean adequately	if you had	2.700					
only the te	st product		965					
Not As	45 GOVO	AS CON	BRUT CAR	B (33	26 AM	CR BOT	- C1.	056, NOT-
Manager C				(6)				
- C	- Indiana							

Date User			M. AUTO CL. Owner/Manager		Interviewer		Product L.D.
3/2/04 5	ENE		EDWARDO		JON ZAVADE	-	50% 504/9ccron
			Type of Clea	aning P			
				One O			
General Purpose Degreasing		Brake Cleaning		Engine Degreasing	C	churetor & Fuel Injection System Cleaning	
Current Product		Current V	Weekly Usage	I No. I	Mech. Using Product	Total	D
trusus		1-20			- FHTS BALCI	- D	Product Weekly Usage
				-	Date-ter	100	CANAS
	Question				User's Respon	se	
Did it clean :	27-37-27-27-27		9ES				
	the delivery ra		463				
Did you like	the delivery pa	attern	465				
Did it dry sur	fficiently		46.S				
(metals, plast	ely effect substics, painted su act have a sme.	rfaces, etc)	NO.				
	n objectionable		140				The second second
	m unacceptable		NO				
Did it have to	o much foam	residue	NO				
	sus current pro	duat	NO	-			
(Terrible, almo	st as good, as go	ood better)	AS GOOL)			
Did you use I	nore volume th	an your					
current cleans	er e		NO	222			
Did it take lo	nger to clean		NO				
Did you like			465	II Let			
Would you be	uy the test prod	luct	46.5				
home or perso	ry the test prod	luct for	+				
Would you be	ry your current	neadust.	465				
for home or p	ersonal use	product	465				
Would you sy	vitch to the test	product	70-	_			
(if less expens	sive, if more e	xpensive)	MIGGE				
Could you cle only the test r	an adequately	if you had	455		4.		
User Commen Liverife's		icel A	S CURPE	WF	CCENWER		
Manager Com	ments					-	

Date	User	-	M. Acord	er	Interviewer	-	Product LD
8/3/01 E	SUIT	E	DWARPO		Son Zavape		SOTO SOY /ACLT
			Type of Clea	ning Por			
			(Circle	One Onl	v)		
General Purpose Degreasing		Brake Cleaning		Engine Degreasing	V Curl	ouretor & Fuel Injecti	
Di	egreasing				8		System Cleaning
Curre	ent Product	Current '	Weekly Usage	No Ma	ch, Using Product	T T	
Johnson			CANS	1-7	415 SHCCT	lest Pi	oduct Weekly Usag
		10-27-12-1			7/00/	1_3	CMS
	Question				User's Respon	ise	
Did it clean	sufficiently						
	- 50		YES				
Did you like	the delivery ra	ite	The state of the s				
Did you like	the delivery pa	ttern	965				
		исп	465				
Did it dry sufficiently		465		Na			
Did it adver	sely effect subs	trates				_	
metals, pla	stics, painted su	rfaces, etc)	NO				
and it have	luct have a sme	II .	000				
Did it have:	an objectionable	odor	NO	3.7			
Did it leave	an unacceptable	residue	NO				
	too much foam		NO				
Terrible alm	rsus current pro lost as good, as g	duct.	10 0.0	NC .			
Did you use	more volume ti	ian vour	AS GOOD				
urrent clear	ner	,	NO	*			
oid it take le	onger to clean		NO		4		
oid you like	the product		9ES	Sept. III			
Vould you	buy the test proc	luct	463				
ome or per	buy the test proc	luct for	11-0				
Vould you l	buy your current	product	965				
or home or	personal use		YES				
Vould you s	witch to the tes	product					
f less exper	sive, if more e	xnensive)	1114136				
nly the test	lean adequately	if you had	465				
ser Comme			(6.2				
	-red						

Date	User	Owner / Manager	Inte	erviewer	Product I.D.		
8/2/01/	NATOUR PANCEAS	6×04,	Jay	ZAVADEL			
					174.60-		
		Type of Clean					
	neral Purpose	Brake Cleaning	(Circle One Only) Brake Cleaning Engine Degreasing (Ca				
	Degreasing	•	angue acg	y casing	Carburetor & Fuel Injection System Cleaning		
Cur	rent Product Cu	rrent Weekly Usage	No. Mech. Using P	radam I	Total Park In 1911 11 11		
BRAGE	M. M. Marie Co. Davids Ser. L. L. L.	2-caus	CARFORE		Test Product Weekly Usage		
					7 0,04 3		
	Question		User's	Response			
Did it clea	an sufficiently			_			
		YES					
Did you li	ke the delivery rate	7 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 /			-		
Did you b	ke the delivery pattern	465					
	sufficiently	4ES					
		465					
Did it adv	crsely effect substrates	Chicago Hillian	-				
metals, p	astics, painted surfaces	etc) YES, SEEM	TO EFFECT	himmer	ONE PART		
	oduct have a smell	UCC	1		CONT PART		
	e an objectionable odor	NO					
Did it leav	e an unacceptable resid	ue Mo	- 100				
	too much foam	NO					
leaning v	ersus current product.						
Videonible, a	lmost as good, as good, be	etter) AS 6000)					
urrent cle	e more volume than yo						
		NO					
Vid some 13	longer to clean	NO		211 1916 7			
Vanish in	ce the product	465		- A			
Youra you	buy the test product	465		-PARKE - T			
voma you	buy the test product fo						
Vould you	rsonal use	465					
or home o	buy your current produ r personal use						
Vould you	switch to the test produ	465					
fless exn	ensive, if more expensi	Land Control of the C					
ould you	clean adequately if you	had had					
nly the te	st product	465					
Ser Comm	AT WALL THREE	TS SUSPECT	E- ANIS O	inse f	BASITE AMET		
	omments	- tuling					

Date	User	Owner / Manager	Interviewer	Product I.D.
7/13/04	MITTEO	GUNTRAM	HOW ZAVADEL	50% Soy/actives For CO2.

	Type of Cleani (Circle O		
General Purpose Degreasing	Brake Cleaning	Engine Degrensing	Carburetor & Fuel Injection

Current Product	Current Weekly Usage	No. Mech. Using Product	Test Product Weekly Usage
BEERYMM	6-12 CANSINGAN	MINTER	1-074

Question	User's Response
Did it clean sufficiently	465
Did you like the delivery rate	465
Did you like the delivery pattern	465
Did it dry sufficiently	465
Did it adversely effect substrates (metals, plastics, painted surfaces, etc)	NO
Did the product have a smell	465
Did it have an objectionable odor	NO
Did it leave an unacceptable residue	NO
Did it have too much foam	NO
Cleaning versus current product. (Terrible, almost as good, as good, better)	AS GOOD
Did you use more volume than your current cleaner	NO
Did it take longer to clean	NO
Did you like the product	465
Would you buy the test product	469
Would you buy the test product for home or personal use	965
Would you buy your current product for home or personal use	465
Would you switch to the test product (if less expensive, if more expensive)	NN486-
Could you clean adequately if you had only the test product	46.5

User Comments

nager Comments		

		NERCEDES-156	NZ.	
Date	User	Owner / Manager	Interviewer	Product LD.
7/24/04	KEN	MIKE HAWKER	Jon Z	50% 501/4CE-016

	Type of Cleani	ng Performed	
	(Circle O	ne Only)	
General Purpose Degreasing	Brake Cleaning	Engine Degreasing	Carburctor & Fuel Injection System Cleaning

Current Product	Current Weekly Usage	No. Mech. Using Product	Test Product Weekly Usage
MOE BRAKE WASH.	2-4 CANS	KEN	2-caus

Question	User's Response
Did it clean sufficiently	465
Did you like the delivery rate	465
Did you like the delivery pattern	465
Did it dry sufficiently	465
Did it adversely effect substrates (metals, plastics, painted surfaces, etc)	NO
Did the product have a smell	965
Did it have an objectionable odor	NO
Did it leave an unacceptable residue	NO
Did it have too much foam	NO
Cleaning versus current product. (Terrible, almost as good, as good, better)	AS GOLD OR BYTTER
Did you use more volume than your current cleaner	N6
Did it take longer to clean	NO
Did you like the product	446,
Would you buy the test product	465
Would you buy the test product for home or personal use	465
Would you buy your current product for home or personal use	465
Would you switch to the test product (if less expensive, if more expensive)	465
Could you clean adequately if you had only the test product	YES,

Painy	Good	FUL	THROTEL	may	/ INTHICE	CLEANER	?
Manager Com	iments						`
	-						

Date	User		Owner / Mana;	ger	Interviewe	Product I.D.
7/3401	Tany	S.	in Rosse	4	Jay 7-	5090 504 19527
			Toma of Cla	min - D	· · · · ·	
			Type of Cle	One Or		-
Gen	ral Purpose		Brake Cleaning	OHE OI	Engine Degreasing	Carburctor & Fuel Inject
D	egreasing			_	- San Sagrana	System Cleaning
Carre	ent Product	Current'	Weekly Usage	No. M	lech. Using Product	Test Product Weekly Usag
WYNIN	ris		1 CANS		cn4	3-CANS
	Question				User's Respon	nse
Did it clean	sufficiently					
Did you lik	Did you like the delivery rate		NO			
	e the delivery pa		465 465			
Did it dry s	ufficiently		965			
Did it adver	sely effect subs	trates				
metals, pla	stics, painted su	rfaces, etc)	NO		¥	
Did the pro	duct have a sme	11	NO			
Did it have	an objectionable	odor	NO			
Did it leave	an unacceptable	residuc	NO			
	too much foam		NO			
Cleaning ve	rsus current pro	duct.	1,10			
Terrible, aln	ost as good, as g	ood, better)	NOT VE	RH C	OCA.	
Ord you use	more volume ti	um your	518540			
Did it take h	onger to clean		465			
	the product		465			
	buy the test prod		NO		1	
Would you	ouy the test prod	uct	NO			
ome or per	sonal use	met for	10			
Vould you	buy your current	product	NO			
or home or	personal use	-	HESE			
Would you s	witch to the test	product	1			
if less exper	f less expensive, if more expensive)		NO			
mly the test	lean adequately product	if you had	NO			
Ser Comme	uts ルフ <i>レミ</i> タ	Goog	Vene a	776.6-	CLEANTNIC	.,

Date	User		Owner / Manag	ger	Interviewer	Product I.D.
13704	Scotte	I.Z.	RA NGUN	tN	Jan Z	-50% SOY/AC
			m			
			Type of Cle	aning Pe One Or		
	eral Purpose	1	Brake Cleaning	One O	Engine Degreasing	Carburetor & Fuel Inject
D	egreasing					System Cleaning
Curre	ent Product	Current V	Weekly Usage	No. N	lech. Using Product	Test Product Weekly Usas
CRC		1-0			COTT	2-CANS
_	0					
Question					User's Respon	nse
Did it clean sufficiently		22	-			
Did you like the delivery rate		14E5				
		465				
Did you like	e the delivery pa	attem	YES			
Did it dry sufficiently						
Did it adversely effect substrates		4ES				
metals, pla	stics, painted su	rfaces, etc)	NO		85	
Oid the product have a smell		465				
	an objectionable		NO			
	an unacceptable	e residue	NO			
	too much foam		NO			
Jeaning ve	rsus current pro	duct		Salar See H		
hid you nee	most as good, as g	ood, better)	AL 14057	-45	GOOD	
arrent clear	ner volume i	am your	NO			
	onger to clean		NO			
	the product		465	-		
	buy the test proc	het				
Vould you	buy the test prod	fuct for	NO		764	
ome or per	sonal use	ide Iți	XO			
Vould you l	buy your curren	product	740			
or home or	personal use		465			
Vould you s	witch to the tes	t product		-		
f less exper	usive , if more e	omensive)	110			
ould you c	lean adequately	if you had			N. Car	
nly the test	product		465			
Ser Comme	ats	e AS		CLE.	ALEED, LIK	6D <i>वास</i> हर

			A NEWS			
Date	User	(wner / Manag	er	Interviewe	a a decreasing
8/3/04	NORMA	TRA	Nound	nt'	day 2	50/0301/4007 TH COD
			Type of Clea	ning Per		
G	eneral Porpose Degrensing	В	rake Cleaning		Engine Degressing	Carburetor & Foel Injecti System Cleaning
Cri	rrent Product	Current V	Veekly Usage	No. M	ech. Using Product	Test Product Weekly Usag
u	tsc	1-2	CANES	- /	YERM	2-CARS
	Question				User's Respo	nse
Did it cle	can sufficiently		4ES			
Did you	like the delivery ra	ite	465			
Did you like the delivery pattern		465				
Did it dry sufficiently		465				
Did it ad (metals,	versely effect subs plastics, painted su	trates rfaces, etc)	NO		+	22 973 (98)
Did the p	product have a sme	11	NO		F-10-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	
Did it ha	ve an objectionabl	e odor	NO			
Did it lea	eve an unacceptabl	e residue	NO			
Did it ha	ve too much foam		NO			
	versus current pro almost as good, as g			20 06	BETTER	
current c	use more volume t leaner ce longer to clean	han your	NO			
			NO			
Did you like the product Would you buy the test product		465				
	ou buy the test pro		465			
home or	personal use	duct for	465	21		
Would y	on buy your curren	nt product	C COLUMN			
	or personal use		465			
(if less e	on switch to the tex expensive, if more	expensive)	465			
Could yo	ou clean adequately test product	if you had	455			

only the test product	19ES	
User Comments		
	Hara and	
Manager Comments		
	No.	

Date	User		Owner / Manag	ger	Interviewe	TIOUGE L.U.		
S/3/141	FE505		NITCK-	151	oy Z	5090 501/ 45CTC		
		-	Type of Clea					
Co	neral Purpose		(Circle	One Only				
Degreasing E		trake Cleaning Engine Degreasing			Carburetor & Fuel Injection System Cleaning			
	rent Product	Current	Weekly Usage	No. Meci	L Using Product	Test Product Weekly Usage		
CRC	CAPIS CILLAR	Al /-C	Arl	1 Ges	203	1-CAN		
Question			User's Response					
	m sufficiently		465					
	ike the delivery rat		465					
	ke the delivery pa	ttem	465					
Did it dry sufficiently		465						
metals, p	ersely effect subst lastics, painted sur	faces, etc)	No					
Did the product have a smell Did it have an objectionable odor		NO		25 AS				
	e an unacceptable		NO	_				
	Did it have too much foam		NO					
Terrible, a	versus current prod lmost as good, as go	ood, better)	AS GOO	POR	BETIER			
arrent cle		an your	NO					
	longer to clean		NO	1 2				
	ke the product		465					
Vould you	buy the test prod	uct	465		The latest the second			
ome or pe	buy the test prodessonal use		465	8				
Vould you or home o	buy your current r personal use	product	465					
Vould you	switch to the test	product						
onld way	ensive, if more en clean adequately i	xpensive)	965					
aly the te	st product	II you had	4ES.			7-11		
ser Comm		GOON	and Frita	KG -2-	THROTE	Super VALVE		
anager C	omments							

Date	User	Owner / Manage	11, Interviewer	Product LD.
191	BARTK	MATTHEW	JON ZAV	40IL 359/ 24/4C
		Type of Clean	ing Performed	
			One Only)	
(Degreasing	Brake Cleaning		
		rent Weekly Usage	No. Mech. Using Product	Test Product Weekly Usage
ional is	PAKE CLEANCE GO	O CANS SHEP/WITE	IMICH TESTING	3-04-9,
	-	-		
	Question		User's Respon	ise
Did it cl	ean sufficiently	4ES		
Did you	like the delivery rate	YES		
Did you	like the delivery pattern	465	-	
Did it dr	y sufficiently	4ES		-
Did it ac (metals,	lversely effect substrates plastics, painted surfaces,	and the same of th		
Did the	product have a smell	465		
	ave an objectionable odor	NO		
	ave an unacceptable residu	ie NO		
Did it ha	we too much foam	NO		
Terrible,	g versus current product, , almost as good, as good, bet	ter) 45 6000		
current c		HO HO		
	ke longer to clean	HO		
	like the product	465		
Would y	ou buy the test product	965		
iome or	ou buy the test product for personal use	765		
for home	ou buy your current produ or personal use	460		
Would y	ou switch to the test produ expensive, if more expensi-	ve) 765		
Could yo	ou clean adequately if you test product	had YES		

Pate	User		Owner / Manag	ger	Interviewer		Product I.D.	
1211	Sergio	1_Se	ROSC LOPE	Z J.	W ZAUNA	OF B	SON SON/ACETO	
		And the second		-0.5.02.0				
			Type of Clea		med			
Ger	eral Purpose	E	(Circle One Only) Brake Cleaning Engine Degressing Carburgtor & Fuel Injection					
	Degreasing				English Degressing C		Carburetor & Fuel Injection System Cleaning	
Cur	Current Product Current V		Veckly Usage	No Mach	Using Product	Total		
			truing Compt		2. 76578 Ale	1 lest Pro	oduct Weekly Usage	
					10/12	10	1647	
Question				J	ser's Respon	se		
Did it clea	Did it clean sufficiently				•			
. 1171-1-017			YES					
Did you li	ke the delivery ra	ate	YES			- T. P		
Did you li	ke the delivery pa	attern						
	sufficiently		465			-		
	THE PERSON NAMED IN COLUMN		4ES					
Did it adv	crsely effect subs	trates	1		1			
metals, plastics, painted surfaces, etc) Did the product have a smell		NO						
			9ES					
d it have an objectionable odor		NO	111111111111					
	e an unacceptabl	e residue	20					
Oid it have too much foam		NO						
Cleaning v	ersus current pro	duct.						
Did von w	lmost as good, as g	good, better)	BETTER					
current cle	se more volume t	nan your	NO					
	longer to clean		NO					
Did you like the product		465						
	buy the test pro	duct	465					
Would you	buy the test pro-	duct for	750	-				
nome or personal use		45						
Would you	buy your curren	r product	100					
or home or personal use		465						
ifleer are	switch to the tes	st product	U-S -	0 0	18			
if less expensive, if more expensive) Could you clean adequately if you had		45, For	CARIS-	E- TARONCA	- BOA	Z VALUEC		
nly the test product		YES						
Ser Come	OCT GERI	C. VER	Y GOOD	ay Ti	TAKES	CARRI	BATORS	
FIMO	CYG VACOL	14 LEAD	25	NCI	WOULK A	3 4	700C FOF	
nager (Comments							